

# Renyu (Philip) Zhang

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## CONTACT INFORMATION

Department of Decision Sciences and Managerial Economics  
CUHK Business School  
The Chinese University of Hong Kong  
Cheng Yu Tung Building  
12 Chak Cheung Street  
Sha Tin, N.T., Hong Kong, China

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**Website:** rphilipzhang.github.io/rphilipzhang

## EDUCATION

**Washington University in St. Louis, Olin Business School** St. Louis, MO  
Ph.D. Operations Management 05/2016

- Thesis: **Dynamic Pricing and Inventory Management: Theory and Applications**
- Advisors: Nan Yang, Fuqiang Zhang

**Peking University, School of Mathematical Sciences** Beijing, China  
B.S. Mathematics 07/2011

## ACADEMIC POSITION

**The Chinese University of Hong Kong, CUHK Business School** Hong Kong, China  
Associate Professor (*with tenure*) 09/2022-  
Visiting Associate Professor 09/2021-08/2022

**New York University Shanghai** Shanghai, China  
Visiting Scholar 07/2022-  
Assistant Professor of Operations Management 09/2016-06/2022  
NYU Global Network Assistant Professor 07/2017-06/2022

**New York University, Stern School of Business** New York, NY  
Visiting Assistant Professor of Operations Management 06/2017-06/2022

## NON-ACADEMIC POSITION

**Kwai** Beijing, China  
Economist & Tech Lead 12/2018-

## RESEARCH INTERESTS

### Methodologies

Reinforcement learning; data-driven optimization; econometrics and causal inference; machine learning and deep learning.

### Applications

Online platforms and marketplaces; social networks; AI ethics; revenue management and pricing; inventory and supply chain management.

## PUBLICATIONS

1. **Dynamic Pricing and Inventory Management under Inventory-Dependent Demand**, *Operations Research*, **62**(5), 2014, 1077-1094 (with Nan Yang).

2. **Dynamic Pricing and Inventory Management under Fluctuating Procurement Costs**, *Manufacturing & Service Operations Management*, **17**(3), 2015, 321-334 (with Guang Xiao and Nan Yang).
3. **Dynamic Supply Risk Management with Signal-Based Forecast Multi-Sourcing, and Discretionary Selling**, *Production and Operations Management*, **26**(7), 2017, 1399-1415 (with Long Gao, Nan Yang, and Ting Luo).
4. **Trade-in Remanufacturing, Customer Purchasing Behavior, and Government Policy**, *Manufacturing & Service Operations Management*, **20**(4), 2018, 601-616 (with Fuqiang Zhang).
  - Finalist award in the *POMS College of Supply Chain Management 2015 Best Student Paper Competition*
5. **Comparative Statics Analysis of An Inventory Management Model with Dynamic Pricing, Market Environment Fluctuation, and Delayed Differentiation**, *Production and Operations Management*, **31**(1), 2022, 341-357 (with Nan Yang).
6. **Carpool Services for Ride-sharing Platforms: Price and Welfare Implications** *Naval Research Logistics*, **69**(4), 2022, 550-565 (with Xuan Wang).
7. **Competition and Coopetition for Two-sided Platforms**, *Production and Operations Management*, **31**(5), 2022, 1997-2014 (with Maxime Cohen).
  - Honorable Mention in the *INFORMS Service Science Section 2017 Best Cluster Paper Award*
8. **Dynamic Pricing and Inventory Management in the Presence of Online Reviews**, *Production and Operations Management*, **31**(8), 2022, 3180-3097 (with Nan Yang).
9. **Cold Start to Improve Market Thickness on Online Advertising Platforms: Data-Driven Algorithms and Field Experiments**, *Management Science*, forthcoming, 2022 (with Zikun Ye, Dennis Zhang, Heng Zhang, Xin Chen, and Zhiwei Xu).
  - Accepted at the 2022 *MSOM Service SIG Conference*
  - Finalist in the *INFORMS Revenue Management and Pricing 2020 Student Paper Competition*
10. **Data Aggregation and Demand Prediction**, *Operations Research*, forthcoming, 2022 (with Maxime Cohen and Kevin Jiao).
  - Finalist in the *INFORMS Data Mining Section 2019 Best Paper Award*
11. **The Impact of Social Nudges on User-Generated Content for Social Network Platforms**, *Management Science*, forthcoming, 2022 (with Zhiyu Zeng, Hengchen Dai, Dennis Zhang, Heng Zhang, Max Shen, and Zhiwei Xu).

- WORKING PAPERS
12. **Inventory Commitment and Monetary Compensation under Competition** (with Junfei Lei, Fuqiang Zhang, and Yugang Yu).
  13. **Online Advertisement Allocation under Customer Choices and Algorithmic Fairness** (with Xiaolong Li, Ying Rong, and Huan Zheng).
    - Accepted at the 2022 *MSOM Supply Chain Management SIG Conference*
  14. **Content Promotion for Online Content Platforms with Network Diffusion Effect** (with Yunduan Lin, Mengxin Wang, Max Shen, and Heng Zhang).
    - Finalist in the *INFORMS Social Media Analytics 2022 Best Student Paper Award*
  15. **Dynamic Competition in Online Retailing: Implications of Network Effects** (with Zheyu Jiang and Nan Yang).

- BOOKS
16. *Demand Prediction in Retail - A Practical Guide to Leverage Data and Predictive Analytics*, Springer Series in Supply Chain Management, 2022 (with Maxime C. Cohen, Paul-Emile Gras, and Arthur Pentecoste).

SEMINARS AND  
CONFERENCE  
TALKS

- 2022 CityU HK College of Business, Club Bear Online Seminar, Tsinghua University SEM, PKU Guanghua, Analytics for X, NYU Stern, CUHK PhD Recruitment Workshop, RMP, West China Medical Center, Sichuan University School of Business, NUS Business School, NUS ISEM, U of Toronto Rotman
- 2021 NJU School of Management and Engineering, INFORMS, CSAMSE, Tsinghua University IE, MSOM, HKUST Business School
- 2020 CUHK Business School, DataFun Talk, Tsinghua University SEM, CUHK Shenzhen School of Data Science, HKU Business School, INFORMS, Sun Yat-sen University Lingnan College, Fudan University School of Management, NSFC PI Meeting, Sichuan University School of Business, NUS IORA [[Video link](#)], SJTU Antai, NYU Stern, Club Bear Online Seminar [[Video link](#)]
- 2019 INFORMS, UIC College of Business Administration, Data-Driven and Innovative Operations Workshop, POMS HK, Young Scholars' Forum on Management Science
- 2018 PKU Guanghua, Sun Yat-sen University Lingnan College, JHU Carey, NYU Stern, Operations Management under "Internet+" Environment Workshop, MSOM, RMP, Revenue Management Workshop, POMS, POMS HK, CUHK Business School
- 2017 Young Scholars' Forum on Management Science, Sichuan University School of Business, WUSTL Olin, INFORMS, HK PolyU Faculty of Business, CityU HK College of Business, HKUST Business School, NYU Stern, MSOM, SMU Lee Kong Chian School of Business, NUS Business School, USTC School of Management, POMS HK
- 2016 Southeast University School of Economics and Management, Tsinghua University SEM, SJTU Antai, U of Toronto Rotman, INFORMS, NJU School of Management and Engineering, Southwest University of Finance and Economics School of Business Administration, Southwest Jiaotong University School of Economics and Management, SUFE School of Business Administration, CSAMSE, RMP, POMS, NYU Shanghai, UTD Jindal, NYU Stern, CUHK SEEM, HKUST Business School, HKUST IELM, HK PolyU Faculty of Business, CityU HK College of Business
- 2015 DSI, INFORMS, MSOM, POMS
- 2014 INFORMS, MSOM
- 2013 INFORMS
- 2012 INFORMS

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|-------------------------------|---|-----------------|
| HONORS, AWARDS,<br>AND GRANTS | 1. Finalist, <i>INFORMS Social Media Analytics Best Student Paper Award</i> .                       | 10/2022         |
|                               | 2. CUHK 'Improvement on Competitiveness in Hiring New Faculties' Funding Scheme, PI, HKD 1,500,000. | 07/2022         |
|                               | 3. Hong Kong Research Grants Council, General Research Fund 14502722, PI, HKD 629,325.              | 09/2022-08/2025 |
|                               | 4. Finalist, <i>INFORMS Revenue Management and Pricing Student Paper Competition</i> .              | 10/2020         |
|                               | 5. Finalist, <i>INFORMS Data Mining Section Best Paper Award</i> .                                  | 10/2019         |
|                               | 6. MSOM Meritorious Service Award 2018, 2019  | 04/2020         |
|                               | 7. Shanghai Eastern Scholar, Young Scientist Program QD2018053, PI, RMB 200,000/Year.               | 01/2019-12/2021 |
|                               | 8. National Natural Science Foundation of China, Young Scientist Program 71802133, PI, RMB 180,000. | 01/2019-12/2021 |
|                               | 9. Honorable Mention, <i>INFORMS Service Science Best Cluster Paper Award</i> .                     | 10/2017         |
|                               | 10. Shanghai Pujiang Talent Program 17PJC074, PI, RMB 100,000.                                      | 09/2017-08/2019 |
|                               | 11. Finalist Award, <i>POMS College of Supply Chain Management Best Student Paper Competition</i> . | 05/2015         |

	12. First Prize Award, Chinese Mathematics Olympiad	10/2006
PHD STUDENT ADVISING	<ol style="list-style-type: none"> <li>1. Kevin Jiao (Dissertation Committee, NYU Stern 2019, Initial Placement: FINRA).</li> <li>2. Xiaolong Li (SJTU Antai 2019, Initial Placement: Post-Doctoral Fellow at NUS IORA).</li> <li>3. Zikun Ye (UIUC IESE Current Student).</li> <li>4. Zhiyu Zeng (Tsinghua IE Current Student).</li> <li>5. Junfei Lei (UW Seattle Foster Current Student).</li> <li>6. Yunduan Lin (Berkeley IEOR Current Student).</li> <li>7. Zhiqi Zhang (WUSTL Olin Current Student).</li> <li>8. Zheyu Jiang (Miami Herbert Current Student).</li> <li>9. Zihan Zhao (WUSTL Olin Current Student).</li> </ol>	
TEACHING EXPERIENCES	<p><b>The Chinese University of Hong Kong, CUHK Business School</b></p> <p><b>Instructor</b></p> <ul style="list-style-type: none"> <li>• Intelligent Business with Data Science (EMBA) <ul style="list-style-type: none"> <li>- Winter 2022</li> </ul> </li> <li>• Business Intelligence Techniques and Applications (MS in Business Analytics) <ul style="list-style-type: none"> <li>- Winter 2022, Winter 2021 (5.95/6, 5.94/6)</li> </ul> </li> <li>• Business Analytics (Undergraduate) <ul style="list-style-type: none"> <li>- Spring 2022 (5.33/6)</li> </ul> </li> </ul> <p><b>New York University Shanghai</b></p> <p><b>Instructor</b></p> <ul style="list-style-type: none"> <li>• Machine Learning for Business (MS in Data Analytics and Business Computing) <ul style="list-style-type: none"> <li>- Summer 2021 (4.3/5), Summer 2020 (4.8/5)</li> </ul> </li> <li>• Business Analytics (Undergraduate) <ul style="list-style-type: none"> <li>- Spring 2021 (4.9/5, 4.9/5), Spring 2019 (4.2/5, 4.8/5), Spring 2018 (4.4/5, 4.7/5)</li> </ul> </li> <li>• Operations Management (Undergraduate) <ul style="list-style-type: none"> <li>- Spring 2019 (4.6/5), Fall 2017 (3.8/5), Spring 2017 (4.0/5), Fall 2016 (4.6/5)</li> </ul> </li> </ul> <p><b>Business Honors Thesis Advisor</b></p> <ul style="list-style-type: none"> <li>• Ziheng Wang (2021), Yiyi Zhang (2018), Yujia Ni (2018).</li> </ul> <p><b>Kwai</b></p> <p><b>Internal Instructor</b></p> <ul style="list-style-type: none"> <li>• Introduction to Economics</li> <li>• Data Driven Optimization</li> <li>• Operations Analytics</li> </ul>	08/2022 05/2020 01-05/2019
PROFESSIONAL SERVICES	<p><b>Journal Editor</b></p> <p><i>Naval Research Logistics</i>, Associate Editor.</p> <p><b>Journal Referee</b></p>	08/2022-

*Management Science, Operations Research, Manufacturing & Service Operations Management, Marketing Science, Mathematics of Operations Research, Production and Operations Management, Transportation Science, Transportation Research: Part B, Service Science, Naval Research Logistics, Decision Sciences, European Journal of Operations Research, Omega, Journal of Management Science and Engineering, Applied Mathematical Modeling, Operational Research: An International Journal.*

### **Competition Judge**

INFORMS IBM Service Science Student Paper Competition (2022 Co-Chair).  
 MSOM Student Paper Competition (2022, 2021, 2020, 2019, 2018, 2017).  
 POM College of Supply Chain Management Student Paper Competition (2020).  
 CSAMSE Best Paper Competition (2022, 2021).  
 POM International Conference China Best Paper Award (2022).  
 ISCOM Best Competition Competition (2021)

### **Conference Committee and Session Chair**

Session Chair:

- INFORMS 2020, INFORMS 2018, POMS 2018, POMS-HK Conference 2018, POMS-HK Conference 2017, CSAMSE Conference 2016.

Sponsorships and Exhibits Committee member:

- POMS Annual Meeting 2016.

### **Professional Organization Membership**

INFORMS, MSOM, RMP, APS, POMS.

### **Internal Services**

CUHK Business School IBBA Business Analytics Concentration Advisor.	09/2022-
CUHK Business School Curriculum Committee.	09/2021-08/2022
NYU Shanghai Business Honors Program Thesis Advisor.	09/2017-05/2021
NYU Shanghai Business Honors Program Guest Lecturer.	09/2016-11/2021
NYU Shanghai Dean's Undergraduate Research Fund Research Advisor.	03/2018-08/2022
NYU Shanghai Candidate Weekend Guest Instructor.	03/2018
NYU Shanghai Candidate Weekend Interviewer.	03/2019
NYU Shanghai MSDABC Program Admission Event Guest Speaker.	08/2020
NYU Shanghai Operations Management Reading Group Organizer.	03/2017-06/2019
NYU Shanghai Housing Subcommittee Member.	11/2016-05/2019
NYU Shanghai Business Research Seminar Coordinator.	09/2016-08/2017

### **PERSONAL**

Chinese citizen, Christian, married with one child.